

REMARKS/ARGUMENTS

New corrected drawings in compliance with 37 C.F.R. §1.121(d) were required. Replacement sheets for the drawings originally filed in this application are enclosed for the approval of the Examiner.

Claim 10 was rejected under 35 U.S.C. §112, second paragraph. Reconsideration of the rejection is respectfully requested.

Claim 10 has been amended to overcome the rejection.

Claim 9 was objected to for certain informalities. Reconsideration of the objection is respectfully requested.

Claim 9 has been amended to overcome the objection.

In addition, various corrective and clarifying amendments have been made to the claims. Such amendments were made to claim 1, and antecedent basis for those amendments is found in the specification, for example, on page 2, line 26, to page 3, line 3, on page 20, lines 3-10, and on page 23, lines 9-14. Such amendments were made to claim 9, with antecedent basis being found in the specification, for example, on page 13, lines 11-14, and on page 14, lines 4-10, and in the drawings, for example, in Fig. 5. Such amendments were made to claim 13, with antecedent basis therefor being found in the specification, for example, on page 7, line 26, to page 8, line 16, and in the drawings, for example, in Fig. 2.

Claims 1 and 20 were rejected under 35 U.S.C. §102(e) as being anticipated by Inoue, U.S. Patent No. 6,783,449 B2. Reconsideration of the rejection is respectfully requested.

Claims 6 and 8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Inoue in view of Nagel et al., U.S. Patent No. 5,088,237. Reconsideration of the rejection is respectfully requested.

Claims 2-4 were rejected under 35 U.S.C. §103(a) as being unpatentable over Inoue in view of Takagi, U.S. Patent No. 6,238,151 B1. Reconsideration of the rejection is respectfully requested.

Claims 4-7 were rejected under 35 U.S.C. §103(a) as being unpatentable over Inoue in view of Planche, U.S. Patent No. 5,906,458. Reconsideration of the rejection is respectfully requested.

Claims 8-10 were rejected under 35 U.S.C. §103(a) as being unpatentable over Inoue in view of Kress et al., U.S. Patent No. 5,494,383. Reconsideration of the rejection is respectfully requested.

Claims 17-19 were rejected under 35 U.S.C. §103(a) as being unpatentable over Inoue in view of German Publication No. DE 3406035 C1. Reconsideration of the rejection is respectfully requested.

Independent claim 1 has been amended to provide that, “each of the at least three support regions comprises at least one of a guide strip and a geometrically defined cutting edge having a circularly ground chamfer.” Antecedent basis for this amendment to independent claim 1 is found, for example, in claims 1, 2, and 5 as originally filed in the above-identified application.

In support of the rejection of independent claim 1, the Examiner alleges that Fig. 1 in Inoue “shows a tool having a first machining step 30 with four cutting edges and a second honing step with a series of honing strips separated by slits 13a,” (Office Action, page 3, paragraph 5, lines 2-3). It appears from Fig. 1 of Inoue that working member 30 has a working portion 31 with at least four cutting edges, it being unclear from Fig. 1 whether each side of working portion 31 actually consists of more than one surface, (see also column 4, lines 35-39). None of the cutting edges of working portion 31 in Inoue appear to comprise a guide strip or a geometrically defined cutting edge with a circularly ground chamfer. In contrast, independent claim 1, as amended, indicates that each of the at least three support regions comprises at least one of a guide strip and a geometrically defined cutting edge having a circularly ground chamfer.

With regard to Takagi, the Examiner contends that Figs. 6 and 7 and column 8, lines 1-23, disclose providing the cutting edge on a removable insert/knife plate 10 and providing the insert with a circular chamfer 14A having the same diameter as the hole being machined so that the chamfer will guide and center the tool in the hole, (Office Action, page 3, paragraph 8, lines 2-5). However, element 10 actually appears to be the side surface of tip 5 shown in Figs. 6 and 7, with tip 5 also having a cylindrical surface 14A having a radius of curvature equal to the radius of a hole drilled by the drilling tool, (see column 7, line 62, to column 8, line 22). Since a tip 5 is mounted to each of the tip mounting seats 4 and 4 in tool body 1, (see column 7, lines 32-49; Fig. 1), it appears that only two circular chamfers 14A are taught by Takagi. In contrast, independent claim 1 requires three support regions. Even if the Examiner contends that the feature of each of the at least three support regions comprising at least one of a guide strip and a cutting edge having a circularly ground chamfer would encompass the presence of two circularly ground chamfers, as taught by Takagi, that feature of independent claim 1 would also require the presence of a third support region having at least one

of a guide strip and a cutting edge having a circularly ground chamfer, which does not appear to be disclosed by Takagi.

With regard to Planche, the Examiner contends that, "Figures 1-2 of Planche show a reamer having a removable cutting edge 14 that fits in a slot having sides 15, 17, and a bottom, and guide pads 24, 25," (Office Action, page 4, paragraph 9, lines 2-3). Assuming that the Examiner is contending that the guide pads are equivalent to the guide strips of the claims, only two such alleged guide strips appear to be taught by Planche. In contrast, independent claim 1 provides for each of at least three support regions comprising at least one of a guide strip and a cutting edge having a circularly ground chamfer. Even if the Examiner contends that this feature of independent claim 1 can encompass the presence of two guide pads, as taught by Planche, claim 1 requires the presence of a third support region comprising at least one of a guide strip and a geometrically defined cutting edge having a circularly ground chamfer, which does not appear to be disclosed by Planche.

Since each of claims 2-10 and 17-20 is directly or indirectly dependent upon independent claim 1, each of claims 2-10 and 17-20 is allowable for at least the same reasons recited above with respect to the allowability of independent claim 1.

Claims 11-16 were objected to as being dependent upon a rejected base claim, but were stated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Reconsideration of the rejection is respectfully requested.

Dependent claim 11 has been rewritten as an independent claim to incorporate the provisions of claims 1, 6, and 7. The provisions of claims 6 and 7 were incorporated in former dependent claim 11, even though former dependent claim 11 was directly dependent upon independent claim 1, to provide adequate antecedent basis for claim 14. Claim 14, which was directly dependent upon claim 11 and is now, after amendment, indirectly dependent upon claim 11, includes the feature of the base of the groove which has antecedent basis in claims 6 and 7. Thus, the provisions of claims 6 and 7 were incorporated in claim 11.

Claim 13 has been amended from being dependent upon claim 11 to be dependent upon claim 12 to provide adequate antecedent basis for claim 13, as amended. Claim 14 has been amended from being dependent upon claim 11 to be dependent upon claim 13 so that claim 15, which is dependent upon claim 14, will have adequate antecedent basis.

New independent claim 21 has been added. New independent claim 21 is based upon independent claim 1, as amended, except that the phrase "wherein each of the at least three support regions comprises at least one of a guide strip and a geometrically defined cutting edge having a circularly ground chamfer" in claim 1 has been changed to --wherein the first machining step has a cylindrical shape-- in claim 21. Antecedent basis for new independent claim 21 is found in the specification, for example, on page 5, lines 16-18, and on page 20, lines 3-7, and in the drawings, for example, in Fig. 1.


The alleged first machining step 30 with four cutting edges in Inoue has a working portion 31 with at least four cutting edges, (see page 13, lines 8-12, of this Amendment). The working portion 31 appears to have a rectangular shape in cross-section, and, thus, appears to have a block shape in three dimensions, (see Fig. 1). In contrast, new independent claim 21 requires that the first machining step have a cylindrical shape.

In view of the foregoing amendments and remarks, allowance of claims 1-21 is respectfully requested.

Respectfully submitted,

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SUBMITTED ELECTRONICALLY
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TRADEMARK OFFICE EFS FILING
SYSTEM ON December 2, 2009.

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